



MONTHLY AIR QUALITY REPORT FOR
JUNE 2013

AOI COLOR SCALE

GOOD 0-50	MODERATE 51-100	UNHEALTHY FOR SENSITIVE GROUPS 101-150	UNHEALTHY 151-200
	VERY UNHEALTHY 201-300	HAZARDOUS 301-500	

Calendar of maximum AQI values & their corresponding color for June 2013*

*Preliminary data

SAMPLE POLLUTANT REPORTING BOX

1 (day of month)	O3	CO
	PM10	PM2.5

SUN			MON			TUES			WED			THU			FRI			SAT		
																		1	106	07
2	64	09	3	45	06	4	48	06	5	71	06	6	93	07	7	100	07	8	47	38
	44	37		35	23		44	30		41	28		55	29		57	33		61	06
9	67	03	10	49	06	11	74	08	12	93	08	13	58	03	14	71	06	15	64	27
	35	22		52	22		57	36		57	37		48	35		49	36		51	05
16	54	05	17	74	06	18	74	07	19	90	07	20	104	06	21	67	07	22	47	34
	85	29		74	30		57	26		52	29		53	27		55	24		50	06
23	48	07	24	47	07	25	54	07	26	47	07	27	54	06	28	111	08	29	48	22
	54	20		44	21		60	26		59	21		50	24		61	47		77	07
30	54	05																	63	56
	188	116																		

Calendar of High Pollution Advisories and Health Watches issued during June 2013

SUN	MON	TUE	WED	THU	FRI	SAT
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

LEGEND

HIGH POLLUTION ADVISORIES

A = PM-10 High Pollution Advisory
B = PM-2.5 High Pollution Advisory
C = Ozone High Pollution Advisory

HEALTH WATCHES

D = PM-10 Health Watch
E = PM-2.5 Health Watch
F = Ozone Health Watch

Calendar of Meteorological Conditions observed in Metro Phoenix during June 2013

SUN	MON	TUE	WED	THU	FRI	SAT
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

LEGEND

ELECTROMETEORS

A = Thunderstorm

HYDROMETEORS

B = Rain/Drizzle/Hail
C = Fog

LITHOMETEORS

D = Blowing Dust
E = Haze (vsby <10SM)
F = Smoke

Non-Ozone Exceedance days during JUN 2013-

Total=	1	<u>Date</u>	<u>Max AQI</u>	<u>Pollutant</u>	<u>Site/s</u>
		6/30	188	PM-10	Central Phoenix
			175	PM-10	Durango
			170	PM-10	South Phoenix
			164	PM-10	West Forty Third
			160	PM-10	Greenwood
			154	PM-10	Phoenix Supersite
			137	PM-10	Tempe
			128	PM-10	Glendale
			121	PM-10	South Scottsdale
			118	PM-10	West Chandler
		6/30	116	PM-2.5	Durango

Non-Ozone Health Watches issued during JUN 2013-

Total=	0	<u>Date</u>	<u>Max AQI</u>	<u>Pollutant</u>	<u>Site/s</u>
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Non-Ozone High Pollution Advisories issued during JUN 2013-

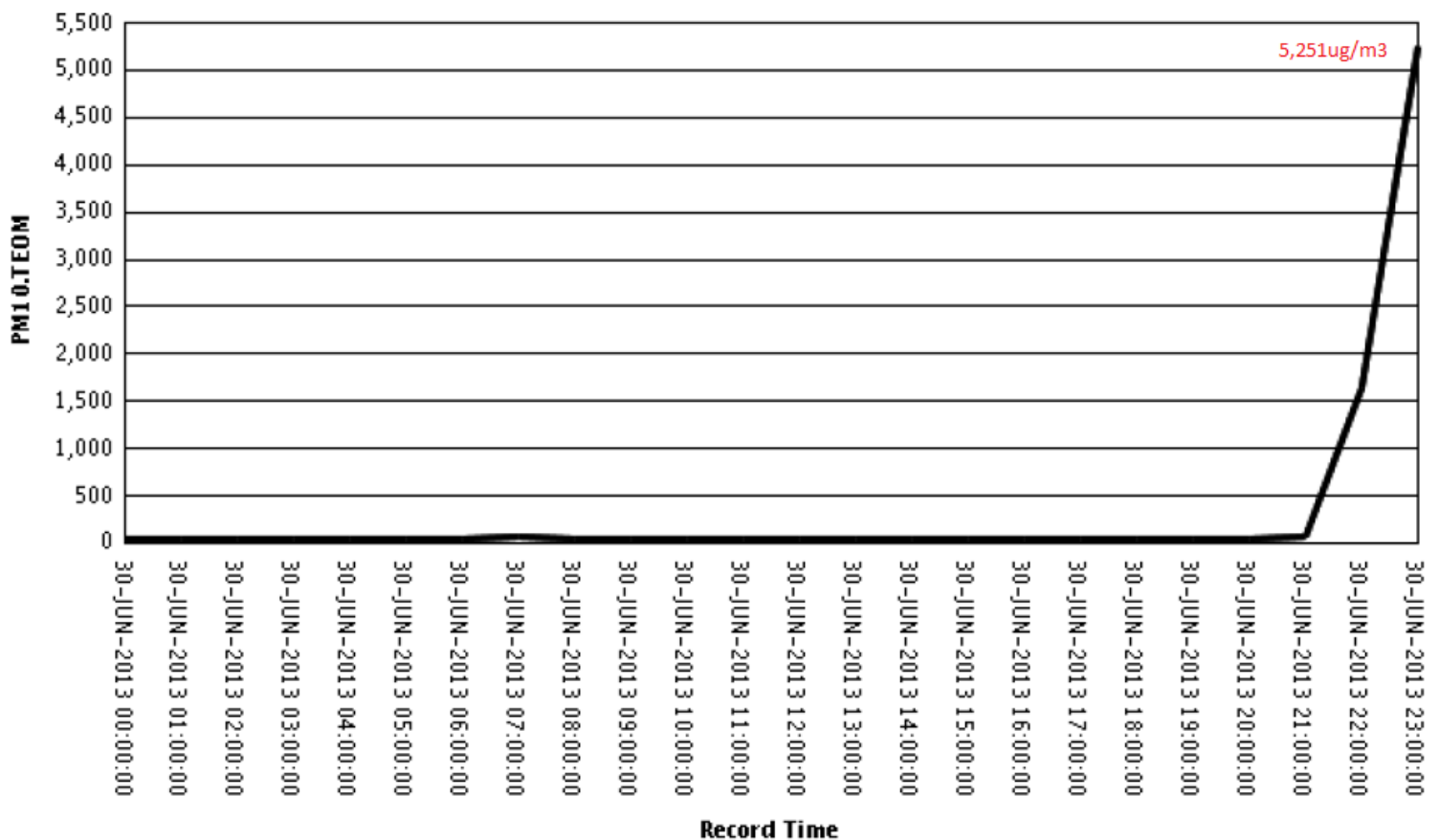
Total=	0	<u>Date</u>	<u>Max AQI</u>	<u>Pollutant</u>	<u>Site/s</u>
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<u>Concentration Recap:</u>	Days in the Good category:	4
	Days in the Moderate category:	22
	Days in the Unhealthy for Sensitive Groups category:	3
	Days in the Unhealthy category:	1
	Days in the Very Unhealthy category:	0
	Days in the Hazardous category:	<u>0</u>
	Total Forecast Days:	30

Narrative: As is normally the case, the month of June in the Phoenix metro area was hot and dry and in 2013 there were eight days with maximum temperatures at Sky Harbor Airport of 110 degrees F or higher. There were six days for which the National Weather Service issued Excessive Heat Warnings and three of those days had record high maximum temperatures for the date including a 119 degree reading on the 29th. Highest coarse particle (PM-10) pollution levels managed to stay mostly in the good or low-moderate range of the Air Quality Index thru the 29th of the month. However, the very hot daytime temperatures and absence of rainfall resulted in very dry soil conditions that were excessively prone to fugitive dust emissions. This became abundantly apparent on the last day of the month when a strong thunderstorm outflow boundary – the first of the summer monsoon weather pattern – produced wind gusts up to 48 mph that generated widespread blowing dust with visibilities as low as 1/2 mile between 10:00 p.m. and midnight. Local PM-10 concentrations abruptly rose to staggeringly high levels; the peak measured hourly concentration during the event was **5,251ug/m3** at the Central Phoenix monitoring site (see [Figure 1](#) below). The end result was that a total of ten monitoring sites recorded unhealthy PM-10 levels for the date and one site recorded a PM-2.5 (fine particle) exceedance as well. -Reith

Figure 1

Name: **CENTRAL PHOENIX**



DETAILED OZONE SECTION

(Based on the 2008 EPA Revised 8-Hour Ozone Standard)

GOOD	MODERATE	UNHEALTHY FOR SENSITIVE GROUPS	UNHEALTHY
0-50	51-100	101-150	151-200

SUMMARY OF MAXIMUM 8-HR OZONE AQI VALUES FOR JUNE 2013*

*Preliminary data

SUN		MON		TUES		WED		THU		FRI		SAT	
												1	106
2	64	3	45	4	48	5	71	6	93	7	100	8	61
9	67	10	49	11	74	12	93	13	58	14	71	15	51
16	54	17	74	18	74	19	90	20	104	21	67	22	50
23	48	24	47	25	54	26	47	27	54	28	111	29	77
30	54												

8-hr Ozone exceedance days in JUN:

Total= 3

<u>Date</u>	<u>Max ppb/AQI</u>	<u>Site/s</u>
6/01	78/106	Mesa
	77/104	North Phoenix
	77/104	Phx Supersite
	76/101	South Phoenix
6/20	77/104	Pinnacle Peak
6/28	80/111	Pinnacle Peak
	79/109	Falcon Field

Total number of exceedance days since APR 01: 6

Total number of exceedance sites since APR 01: 20

Ozone Health Watches in JUN:
(Forecast max value 72-75 ppb)

Total=	8	<u>Date</u>	<u>Max ppb/AQI</u>	<u>Site/s</u>
		6/01	78/106	Mesa
		6/06	73/93	Pinnacle Peak
			73/93	Rio Verde
		6/08	63/61	Humboldt Mtn.
			63/61	Tonto Nat'l Mon.
		6/20	77/104	Pinnacle Peak
		6/21	65/67	Pinnacle Peak
		6/27	61/54	Queen Valley
		6/29	68/77	Pinnacle Peak
		6/30	61/54	Tonto Nat'l Mon.

Ozone Health Watches since APR 01:

Total= 14

High Pollution Advisories in JUN:
(Forecast max value 76+ppb)

Total=	2	<u>Date</u>	<u>Max ppb/AQI</u>	<u>Site/s</u>
		6/07	75/100	Pinnacle Peak
		6/28	80/111	Pinnacle Peak

High Pollution Advisories since APR 01: Total= 2

Concentration Recap:

Days in the Good category:	7
Days in the Moderate category:	20
Days in the Unhealthy for Sensitive Groups category:	3
Days in the Unhealthy category:	0
Total Forecast Days:	30

Maximum 8-Hr value:	<u>Date</u>	<u>Hour</u>	<u>Site</u>	<u>ppb/AQI</u>	<u>DOW</u>
	6/28	1300	Pinnacle Peak	80/111	Fri

Maximum 1-Hr value:	<u>Date</u>	<u>Hour</u>	<u>Site</u>	<u>ppb/AQI</u>	<u>DOW</u>
	6/28	1500	Blue Point	96/80	Fri

Average daily max 8-Hr concentration (ppb):	64.9
Deviation from the 1996-2012 average (ppb):	-5.3

JUN Climatology:
(Period 1996-2007
using 1997 85ppb
standard & 2008-
2012 using 76ppb
standard)

Average number of 8-Hr exceedance days:	3.8
Maximum number of 8-Hr exceedance days:	10 in 2008
Minimum number of 8-Hr exceedance days:	0 in 2003, 2004, 2007
Average daily max 8-Hr concentration (ppb):	70.2
Record high max 8-Hr concentration (ppb):	102 on the 1st, 1996
Record low max 8-Hr concentration (ppb):	43 on the 9th, 2009

Forecast Verification:

# of days maximum concentrations were over-forecast:	20
# of days maximum concentrations were under-forecast:	10
# of days maximum concentrations were correctly forecast:	0
Jun average forecast accuracy (ppb):	+/-6.5
Jun average forecast bias (ppb):	+3.1

Narrative: The average ozone level for the month of June 2013 in the Valley was well below the average of the 17 previous years (1996-2012) although the number of exceedance days was close to normal during the same period. The sharpest contrast was between 2012 and 2013 with the mean ozone reading for 2013 a full six parts per billion lower than the previous year along with six fewer exceedance days. –Reith